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SCIENCE

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ADDRESS OF THE PRESIDENT OF THE ASSOCIATION OF AMERICAN AGRICULTURAL COLLEGES AND EXPERIMENT STATIONS[1]

Two great things have occupied the center of attraction and thought in the affairs of this association and the institutions embraced in its membership during the past year. These are the Smith-Lever Extension Act and the changes in the relations of the agricultural colleges with the United States Department of Agriculture. The discussion of administrative questions involved in the new developments along both of these lines will consume a large share of the time of this convention. It is my purpose at the present hour to consider briefly some of the broader relations of these matters to the future development of the land-grant colleges and the Department of Agriculture.

The Extension Act has rounded out the Federal legislation providing for the endowment along agricultural lines of the institutions whose establishment was made possible by the land-grant act of 1862, not so much by liberal grants of money for extension work as by recognition of such work as a legitimate and necessary function of these colleges which ought to be performed throughout the nation. The chief importance of the new policy of the Department of Agriculture in its relations with these colleges is the recognition that this national institution, founded also in 1862 primarily for research and instruction in agriculture, is really a part of our national system of agricultural education, represented in the states by the land-grant colleges, and that therefore it should work not alongside of them but in close interlocking alliance with them.

The enlargement of the functions of both the colleges and the department due to the

[1] Read at the convention at Washington, D. C., November 11, 1914.

broad and rapid development of extension work is relatively so recent and as yet so incomplete that there has been little realization of its ultimate far-reaching effects. Undoubtedly it is too early for us to see very clearly what these will actually be and uninspired prophecy is always "a shot in the dark." On the other hand when we are laying the lines for a great and permanent enterprise it will not do for us to consider merely past experience and the pressing needs of the present. Whither are we going and what will be the goal of our efforts are reasonable questions and incomplete answers are better than none.

So far extension work in this country has been very largely an incidental function of the agricultural colleges and the department. I do not mean by this that it has been carried on in a small way. Large amounts of information collected by these institutions have been broadly disseminated through the printed page and by itinerant lectures. In recent years demonstration work and the activities of the county agricultural agents have assumed considerable prominence, but have been looked upon as in an experimental stage. In the main the colleges and the department have done extension work with funds under their immediate control and with agents sent out from the central headquarters. Now we have an Act of Congress permanently providing for "cooperative agricultural extension work," to be supported not only with federal and state funds, but also with contributions from counties, local authorities and individuals. The plan of organization already generally adopted involves the appointment of county agricultural agents as one of its leading features. Carried to its logical conclusion this means that the colleges and department will before long have a definite existence as educating agencies in practically every county of the United States. Through organization of the farm men and women into small groups they may ultimately have classes in agriculture and home economics in every school district. This is an educational organization radically different from that followed in the public school system of the United States where local initiative and control have largely obtained, state supervision has been very largely of a general character, and federal supervision has been entirely lacking. The agricultural college is to be changed from an institution having a strictly local habitat with comparatively limited powers for the diffusion of knowledge to a widely diffused institution dealing educationally with multitudes of people at their own homes. And it is to carry with it wherever it goes the national Department of Agriculture not only as a provider of funds but as an active coadjutor in its educational operations. And this education is to be not merely the giving out of information to be absorbed by the students but rather the training involved in active participation in the demonstration and discussion of practical affairs, which will constitute a large share of the extension instruction. Moreover this instruction will deal with matters which are of vital and immediate importance to the students since they will affect their incomes, daily practises, and community interests.

The character of the atmosphere and work of every educational institution is powerfully affected by the character and aims of its students. There is therefore no doubt that the reaction of the great masses of extension students on the agricultural colleges and the department will be a very important factor in their future development. This will manifest itself in various ways. The real problems of the farming people, for example, will be brought out much more definitely and clearly than heretofore and these will be pressed home upon the research workers in the stations and the department. The young people brought up in communities where the extension service has been well organized and effective will be much better prepared to enter the agricultural schools and colleges, but they will also not be satisfied with much of the instruction as now given in our agricutural colleges. The attitude of the farming people toward the colleges and the department will be broader and more sympathetic but it will also be more intelligently critical.

The results of the investigations of the de-

partment and the experiment stations, as well as the teachings of the agricultural colleges, will hereafter be put to a much more thorough practical test. When the county agent system is well established in any region it will naturally be expected that after a reasonable lapse of time the agriculture of that region will show definite improvement. Not only should there be better crops and animals but they should be so handled and marketed that the farmers will receive more satisfactory returns for their labor. Moreover the affairs of the farm homes and of the rural community should be more efficiently managed. It will no longer answer to state the agricultural progress of this region in general terms, however glittering. There must be definite facts and figures to prove every statement. And these should emanate not from the institutions and their agents who have been working there, but from the people for whose benefit the work has been done. It may be that the county agent will be directly responsible for the condition of affairs in his own county but everybody will know that he has had the backing of the agricultural college and the Department of Agriculture. These institutions will be held chiefly responsible for the success of their agents. No other educational system has had such severe tests of its practical value. Here are standards of judgment from which there can be no appeal. If this system was to be applied only here and there, failure might be attributed to some peculiar local conditions. But this is to be a national system whose failure, if there is failure, will be due to imperfect or false teachings and wrong methods of administration.

This new system, then, is not merely an important addition to the business of the agricultural colleges and Department of Agriculture for which they must make proper arrangements by appointing competent agents and securing the economical expenditure of public funds. It is of course to be expected that these institutions will put aside all political or other improper motives in the organization and work of the extension force. To gather about them and to send into the field a body of the most experienced and best trained men and women in thorough sympathy with the men, women and children on our farms, that existing conditions will permit, will indeed be a great achievement. To operate this force harmoniously and successfully under a cooperative system which involves the close alliance of national, state, county and local organizations, will be a most wonderful thing. But we may have the most competent extension force we can get throughout the nation and the most cordial relations among the cooperating agencies and yet our extension system may prove a comparative failure. And it will be this unless the colleges and the department look upon the extension work as a vital part of their organism, even as the feet and hands are parts of our human bodies. The blood that flows in this body must be rich and pure, the nervous force that propels it must be strong and active, the will that controls it and the spirit which emanates from it must be infused with the highest ideals of public service. Not only the administrative officers of the colleges and the department must work for the best development of the extension system as an organic part of their institutions, but the investigators and the teachers must feel and act toward the extension workers in the most sympathetic and helpful spirit. And on the other hand, the extension workers, whatever the distance that separates them from headquarters, must fully realize that they are essential parts of the institutions they locally represent and must be thoroughly imbued with a spirit of loyalty to these institutions and an attitude of broad and intelligent appreciation of the functions of administrators, teachers and investigators at the colleges and the department. There must be no carping criticism of the theoretical *vs.* the practical as if these are inevitably to be set one over against the other, but a generous recognition that in order to do our best work for the advancement of agriculture and home economics, we must know both the real facts as determined by observation and experience and also the principles on which these facts

are based as determined by reason and investigation.

The man in the field must constantly bear in mind that he owes what he has to demonstrate very largely to the patient labors of the investigator and the clear and orderly exposition of the teacher. And the man in the laboratory or the classroom must do his work with the consciousness that what he discovers or teaches will speedily and broadly be put to the test of actual trial in the field.

Some have feared that the wide expansion of the extension work with its accompanying great popularity would break down the thoroughness of investigation and the solidity of teaching in our agricultural institutions. Without doubt there is grave danger of evil effects of this character due to the very rapid enlargement of the extension service. As long as the supply of properly trained men is far below the demand that branch of the service where the demand is most urgent is likely to profit at the expense of the other branches. A great popular movement like the present insistence on the wide dissemination of agricultural knowledge is likely to have a torrential influence and sweep many men off their feet and even institutions off their foundations. But such floods are short-lived. After they subside it is often possible to accomplish greater things than were feasible before they came.

For a time we may expect that our agricultural institutions will be so busy establishing the extension system on a grand scale that they may seem to be, and in some cases may actually be, neglectful of the best interests of their research and teaching divisions. And the public will hear and think comparatively little of any of their work except the extension service. But no sooner will the extension service be well established than it will be apparent that it can not do what its enthusiastic propagandists have led the unthinking multitude to believe it would straightway accomplish. Here and there will be great and striking results due to peculiar conditions. There may even be some steady progress in agricultural betterment over wide areas. But in the main important immediate changes in agricultural practise will be relatively few and general advancement will be slow. The reasons for this will be many and complicated. But two important things affecting our agricultural institutions will be apparent.

First it will be clear that to many of the agricultural problems which the extension men will encounter in their work among the farmers, no solution or at best a very imperfect solution is now available. The limitations of our knowledge will be more and more apparent as this knowledge is widely put to the test. The need of further investigation along many lines will therefore become clearer and the demand for it will be much more widespread and insistent.

Secondly, it will not be long after the extension force is expanded to the extent permitted by available funds before the defects in the training of the field men and women will be clearly revealed. A goodly number of those who will enter with great enthusiasm on this service will shortly be actually "prophets without honor in their own country," not so much because the people are blind to their interests as because these prophets have not foretold the things that should come to pass. In some cases this will be because the extension agents have not properly improved existing opportunities for training and have gone on presumptuously without regard to their ignorance. But in most cases these agents will be deeply conscious of their own lack of knowledge and regretful that they have not been better prepared for this special service. And even those who have had the best training and experience and are most successful in their work will have a keen sense of their limitations and will realize the defects of their training. We may therefore expect a demand for better teaching at our agricultural colleges from two sources, (1) from the people for whose benefit the extension service is established and (2) from the workers in that service.

The development of the extension service will therefore put an additional responsibility and burden on the teaching force of our col-

leges. This is already overburdened by the rapid increase in the number of students. Under existing conditions this increase will grow larger at an accelerating rate, for the people are just beginning to realize the value of an agricultural education. It is very important that the colleges should seriously consider the situation confronting their teaching departments with a view to adjusting them to the new demands. For it is clear that the agricultural colleges must soon reach a decision as to what grades of teaching they will undertake and what they will leave to other agencies to perform. It is clearly their duty to provide thorough and ample courses of study for those who are to become investigators, teachers in secondary and collegiate institutions, extension workers, federal and state officials, managers of large enterprises directly or indirectly connected with agriculture, and those farmers who are desirous of thorough college training as a preparation for following the art of agriculture.

On the higher and more technical side of agricultural education greater attention is urgently needed to develop strong collegiate courses with ample specialization for various purposes and graduate instruction of the best type. On the other hand the flood of short courses which has so rapidly increased in amount and variety in recent years must be stemmed and plans must be definitely made for diverting this into channels outside the college. No doubt these courses have served a very useful purpose but the situation with regard to them is wholly different from what it was at their inception or even a few years back. Agricultural education is now a great universal demand and will be much more generally sought when the extension system is well under way. Much more must be done, and done as quickly as possible, to provide schools in the local communities which can take care of the great mass of students who desire only elementary and fragmentary instruction in agriculture. Well-trained and experienced teachers, capable of giving thorough collegiate and graduate instruction, are not so numerous that we can afford to use up their time and energy in giving superficial instruction to great classes of a hundred or more miscellaneous students at short winter courses or in summer schools. Where are we to get the great agricultural scholars who are to lead and inspire our college students if we do not give such men the time and opportunity to keep up-to-date in their specialties, to read, think, investigate and travel as college professors ought to? One broad effect of the new developments in the general college organization should therefore be a clearer differentiation of the collegiate teaching body and a systematic arrangement under which the problems of strictly collegiate and graduate teaching shall receive the attention which they deserve. Obviously many things are now being done in the regular college courses in agriculture which should be turned over to the secondary schools and other things which should be relegated to the extension divisions. There is plenty of opportunity for a better pedagogical standard, better laboratory and field exercises and equipment, more satisfactory text-books, manuals and illustrative material for work in the higher ranges of agricultural instruction.

Not only is there need for more attention to the perfecting of the collegiate courses of instruction for the general body of agricultural students, but special attention should be given to courses for the training of teachers for the regular work of the colleges, for extension work, and for secondary schools. As regards extension work this need is now very urgent. The demand for secondary teachers of agriculture is also growing apace. The constantly broadening interest in vocational education is sure to bring a far greater demand on the land-grant colleges for the training of teachers, not only in agriculture, but also in the trades and home economics. The National Commission on Vocational Education made the following reference to this subject in its recent report to Congress. H. R. Doc. 1004, 63d Congress, 2d session, p. 43.

> We can not rightly undertake a program of practical education in this country and carry it through successfully without teachers properly

qualified by training and experience for their work and with practically no facilities for their proper training in the future.

Here and there are schools which have rendered good service by equipping instructors in manual training, but it is safe to say that at the present time not a half dozen schools exist in the United States which afford an adequate opportunity to secure thoroughgoing preparation for the teaching of trade and industrial subjects. Excellent as has been the technical preparation which the state colleges of agriculture and mechanic arts have given to their students, many of them have not as yet developed departments of education adequate to the task of training prospective teachers either of agriculture or the mechanic arts in the administrative and teaching problems of the vocational school. The comparatively poor support given to this feature of their work by some of the agricultural and mechanical colleges is shown by the fact than out of an appropriation of more than $2,600,000 made to them by Congress under the Match and Nelson Acts for the year 1912–13, these colleges spent less than $34,000 "for the preparation of teachers in the elements of agriculture and mechanic arts."

In their teaching departments the agricultural colleges do not need any longer to bid for great numbers of students. The problem rather is to determine more definitely than hitherto what classes of students the colleges should undertake to train and then to use their available funds in providing the most efficient courses of instruction to meet the requirements of such students. The colleges can now greatly aid in the proper development of the general system of education in agriculture and other vocational subjects, which sooner or later will permeate our public school system, by assuming more strongly a policy of exclusion as regards students not qualified to profit by college instruction. Much needs to be done to correct a widespread popular notion that these colleges ought to do all that is necessary for the state to do as regards the teaching of agriculture and other vocational subjects. Unless the colleges themselves cut out these features of their present work which are really outside their province and devote themselves more strongly to those things, such as the preparation of investigators, teachers and extension workers, which should permanently constitute their chief functions, they will subject themselves to increasing criticism from the more intelligent body of their constituents. They will also surrender some of the highest privileges of leadership in the great educational movement now in progress in this country.

This association has been greatly interested in the promotion of graduate study in agriculture and has practically shown this interest by the maintenance of the biennial short-term graduate school of agriculture, the last session of which was successfully held at the college of agriculture of the University of Missouri. Some of our colleges have made a good beginning of regular graduate courses. Others are not yet in a position to undertake such courses in a satisfactory way. May it not be the duty of this association to take up this matter more thoroughly and through its standing committee on graduate study extend the cooperative efforts of the colleges to provide graduate courses for all students through the country who are qualified to pursue them? There certainly should be soon a number of centers of graduate study in agriculture in the United States which will be broader in scope and more thorough in equipment and teaching than any the world has yet seen. Travel and study abroad will always be beneficial to a certain extent for persons aiming to become experts but the United States should have graduate schools of agriculture which will not only be thoroughly satisfactory to her own students, but also highly attractive to those of other countries. We can not be content as long as any considerable number of our agricultural investigators and college teachers have had only an undergraduate course. Under existing circumstances these men should be encouraged in every possible way to extend their studies after they enter the employ of our agricultural institutions. But stronger efforts should also be made to encourage the taking of graduate courses before entrance on active professional careers. And the bars of entrance to research or teaching positions in our colleges and the department

should be steadily raised until our agricultural institutions in this respect are on a par with first-class higher institutions of learning and research in this and other countries.

The events of the past year are also destined to have far-reaching effects on the work of our institutions devoted to agricultural research. The great expansion of extension activities will inevitably lead to much more varied demands for research. The more the extension workers and to a considerable extent the agricultural people with whom they work, come to realize that our present knowledge will only go a little way toward solving the multitudinous problems of agriculture the more widespread and insistent will be the demand for more numerous and thorough investigations of these problems. It is therefore very important that we should consider the actual status of our research institutions and, while rejoicing in their many good features and their valuable work, should be active in remedying their deficiencies and enlarging their services.

So far our agricultural experiment stations and Department of Agriculture have been hampered in their research work because of the varied duties imposed on them outside of their research functions and the lack of proper differentiation of lines of work and personnel. The department is now alive to this deficiency and under the plans for reorganization undertaken by Secretary Houston aims to make a distinct separation between research, extension and regulatory activities. It will thus be possible to know what funds, equipment and force the department actually has for research, to determine definitely what problems it will attempt to solve, and to put a more rigid responsibility on its research workers to formulate good plans and to hold to their work on the chosen projects until something worth while is accomplished. If adequate supervision of the research work of the department is provided this plan should result in better and more productive research.

The closer relations of the agricultural experiment stations with the department under the new arrangement for comparison of projects and for publication of results in the *Journal of Agricultural Research* should also be a great stimulus to both the state and national institutions to improve the character of their research undertakings.

Meanwhile a private organization with large resources is planning to undertake agricultural research on a scale commensurate with that on which research in other lines has been successfully prosecuted by similar agencies. The friendly rivalry of a great private institution in this field ought to prove very beneficial to our public agricultural institutions.

In a general way our agricultural research is at present too diffuse. We have too large a number of projects for the funds devoted to them. If this private institution follows the course pursued by similar institutions in other fields and concentrates its efforts on a few large undertakings it may serve to aid our public institutions to change their policy in this direction. We have been so desirous of meeting the numerous demands for experimental inquiry and so ambitious to cover the whole field of agriculture that we have so far permitted the undertaking of too many small investigations and very generally with unsatisfactory results.

Recently a public discussion has arisen on the question whether it is better to have research institutions separately organized or connected with colleges or universities. From the standpoint of agricultural research this discussion is timely. At the dedication of the Marine Biological Laboratory at Woods Hole, Mass., President Woodward of the Carnegie Institution pointed out some of the weak points in the present attitude of educational institutions toward research.[2]

> . . . It is often assumed that research is a harmless and a fruitless diversion in the business of education, and that it requires but a portion of the leisure time of those chiefly occupied with duties of instruction and administration in colleges and universities. On the other hand, some eminent minds maintain that serious and fruitful research can be advantageously pursued only in connection with work of instruction, while a few

[2] SCIENCE, August 14, 1914.

enthusiasts go so far as to suggest that the mental and bodily vigor of an investigator can be conserved only in the stimulating presence of immature minds, otherwise known as students or candidates for higher academic degrees. Such eminent minds and enthusiasts entertain grave doubts as to the propriety of the existence independently of colleges and universities of research establishments. It is darkly hinted, indeed, that the latter may work harm, if not ruin, to the former by enticing the effective teacher away from his students and by checking the diffusion in order to promote the advancement of knowledge. . . .

. . . While it is quite true that a majority of the fundamental researches of the past have been accomplished by individuals and that they will continue to be so accomplished in the future, it should nevertheless be the primary purpose of a research institution to institute and to conduct research; to take up especially those larger problems not likely to be solved under other auspices, problems requiring a degree of organized effort and a continuity of purpose surpassing in general the scope and the span of life of any individual investigator. . . .

. . . They should recognize that the ends of research are not limited to the highly worthy object of fitting candidates for the doctorate degree; and they should recognize that there is the amplest room for the simultaneous existence of educational institutions along with other organizations whose primary purpose is not the diffusion but the enlargement of learning. . . .

. . . Research and research organizations are somewhat in danger of being swamped by an excess of symbiosis. . . . Instead of following precedent, we should in general avoid it. When, for example, a research fund is established we should not make haste in academic fashion to set up poor-boy scholarships and reviving fellowships to be awarded to the amateur and to the tyro, but we should seek to originate and to conduct research under the auspices of competent and responsible investigators. And as regards research in academic circles, we need to fix attention rather on the professors who are qualified to extend the boundaries of knowledge than on their pupils. These latter, if worthy of the name, will require little formal instruction in the presence of evolving discoveries and advances; moreover, they must learn early to think with their own hands if they may hope to become either competent teachers or leaders in work of research.

Dr. Woodward's suggestions are further elaborated by Professor W. E. Castle of Harvard University in SCIENCE, September 25, 1914.

. . . Our larger universities, and many of our smaller ones too, point with pride to the research work which they are accomplishing. But in not a few cases this work, if inspected carefully, is found to take final shape in dissertations for the doctorate, of doubtful value as contributors to knowledge, prepared primarily not because the author had something of value to record but because he had to record something in order to get the coveted degree.

The chief energies of many professors entirely competent as investigators are wholly absorbed in laboriously dragging candidates through the academic mill up to the final examination for the doctorate. Their success as research professors and the standing of their universities as centers of research is commonly estimated in numbers of doctorates conferred. . . .

The attempt to combine teaching with research has another indirect but evil consequence. The periods which the professor can himself devote to research are intermittent and fragmentary. This affects disadvantageously the topics selected for investigation. They too must be minor and fragmentary. Great fundamental questions requiring long continued and uninterrupted investigation can not be attacked with any hope of success by one who has only an occasional day or a summer vacation to devote to research. The necessity too, of hunting up thesis subjects for students, small enough in scope to be handled successfully by a beginner in a limited time and yet novel enough to make a showing of originality reacts unfavorably on the professor's own work. It loses both in breadth and depth. He who in the full maturity of his powers should be doing a day's work, runs errands for boys, holds their coats and carries water. Imagine what the "Origin of Species" would have been like had it been brought forward vicariously as a series of theses for the doctor's degree, each aiming to present a different point of view or a novel method of attacking evolutionary problems. . . .

The university is an entirely suitable place, in many respects the *best* place, for a research establishment; but when such establishments are founded in connection with a university, their purpose *for research* should be made very clear and their administration should be kept very distinct

from both teaching and the demonstration of discoveries to the public.

Undoubtedly both the state agricultural colleges and the Department of Agriculture are having serious difficulties in creating within themselves the proper attitude and atmosphere with respect to research. The colleges are troubled with the well-nigh overwhelming inrush of students and the innumerable calls for service in the extension fields. The department is in difficulty because of the constantly increasing pressure of its inspection work and other administrative duties and the fact that it is supported wholly by annual appropriations, money for research being considered as largely an incidental matter in the general budget. Research in both national and state institutions is also hampered by the insistent calls for immediate practical results, by the shifting of men from one institution to another without regard to the requirements of their research work, and by allurements of popular applause for striking advertisements of alleged accomplishments. The atmosphere of our agricultural institutions is surcharged with a feverish excitement. Men are hurrying about to do this or that which is supposed to be absolutely necessary to keep their students or the legislators or the farmers contented and sympathetic. Even on the scientific side there is much of distraction. New organizations are constantly being formed, new journals are being established and edited, local, state, national and international meetings are being held. Besides all these things, some agricultural scientists think it is necessary for them to engage in practical agriculture and actually manage farms or other commercial enterprises. Administrative, educational and commercial factors make up so much of the atmosphere of our agricultural institutions that those gentle and highly intellectual influences which are needed to inspire real research are apt to be felt but weakly in the body corporate. The *great* problem, then, is how to make such influences so highly intensive that they will be felt above all the others. For only in this way can we hope to make the research work of our public agricultural institutions so efficient that its results will be an adequate foundation for the administrative and educational functions of these institutions and for the permanent prosperity of our vast agricultural business.

Research is not merely an incidental function of our agricultural colleges. It is under the law a necessary part of their business, and they have large amounts of public money which can be lawfully spent only for this purpose. But beyond this it is fundamental and essential to their success in teaching and extension work. They are therefore under the greatest obligations to create within themselves the atmosphere and conditions most favorable to successful research and to make sure that their research workers can give undivided attention to their investigations.

Words of friendly criticism may be as silver but far better are golden words of encouragement. And there are many of these which might be fitly spoken on an occasion like this. It will be thirty years next July since a little band of educators, scientists and public officials met in Washington at the call of the Commissioner of Agriculture to discuss the needs of the department and colleges of agriculture and their mutual relations. This proved to be the beginning of this association.

Agriculture in the United States was then a depressed and neglected industry; agricultural investigators, teachers and students were very few, and the Department of Agriculture was chiefly known as a seed-distributing agency. Behold how much has been accomplished in three decades, less than a single generation. A great system of agricultural research has been developed within the department and the states and this is found in organized form in every state and all our outlying territories. So much definite agricultural knowledge has been accumulated that strong and broad agricultural courses have been established in the colleges with the result that they are thronged with agricultural students. The practical outcome of the investigations of the department and the stations and the teachings of the college has been so far beneficial to our agriculture that agricultural education is no longer

confined to our colleges but is now pursued by thousands of students in special and ordinary secondary and elementary schools. And this movement is rapidly growing. Our adult farmers are so desirous of securing the information which our agricultural institutions have to give that many millions of copies of department and college and station publications are annually distributed, the farmer's institutes last year had an attendance of over 3,000,000, and a comprehensive system of agricultural extension service is rapidly covering the whole United States. And now has come this new union of the national and state and local forces for the dissemination throughout our vast territory in a practical way of whatever knowledge our research and educational agencies have accumulated or will gather in the future. And this comes at a time when all classes of our people, in both city and country, are alive as never before to the fundamental importance of our agricultural industries and the absolute necessity of having contentment and permanency in our rural communities.

All will acknowledge that the national and state institutions represented in this association have individually and collectively rendered service of great value to the republic in the past thirty years. But who will venture to set the limits of their achievements in the next thirty years? Certainly the program which they have set for themselves should be a great inspiration to all who serve in their ranks. They have defined agricultural research and education in terms broad enough to take in the multitudinous variety of production in agricultural regions which stretch from the arctic circle to near the equator, as well as a wide range of economic and social problems connected with the business of farming, the life of the farm home and the activities of the rural communities. The extent and variety of the subject-matter to be studied and taught would in themselves be powerful incitements to strenuous intellectual endeavors. When to these are added the vast extent of our territory and the tremendous number of our people the human interests involved make a powerful appeal to our emotions. And finally the complicated administrative machinery which we are developing for this agricultural service, in harmony with the American interlocking system of national, state and local jurisdictions, will require the exercise on a grand scale of combined energy and self-restraint which are the most marked characteristics of the will power of the modern civilized man. If what we call cooperation, fraternalism, or any other name designating united, harmonious and effective activity of groups of people, is to be the governing principle of community, national and international life in the years to come, it may have the finest exemplification in the activities of the institutions represented in this association. And this as I understand it is the example which we are proposing to show to the world. The very difficulties of the scheme are alluring to us and the more we imbibe the spirit of this undertaking the more we are convinced that we can make it a success.

A. C. True

INTERGLACIAL MAN FROM EHRINGSDORF NEAR WEIMAR

The attention of prehistoric archeologists has long been turned toward the region of Weimar, Germany, because of important discoveries made at Taubach and Ehringsdorf, both in the Ilm Valley. Known since 1871, the station of Taubach (back of the village of that name) was systematically explored between 1876 and 1880. The deposits at Taubach and Ehringsdorf are alike. Their basis is a layer of sand and gravel dating from the third or Riss glacial epoch (Obermaier). Above this is lower travertine with remains of the mammoth and woolly rhinoceros near the bottom, and those of *Elephas antiquus* and *Rhinoceros merckii,* both witnesses of a warm climate, near the top. Next above at Ehringsdorf comes the so-called "Pariser" (corruption from Poröser) deposit, a sort of loess. Higher still is a deposit of upper travertine with remains of the stag and woolly rhinoceros; curiously enough the *Rhinoceros merckii* also occurs at this level.